



Faculty of Economics and Business

## **CRIME AND TOURIST ARRIVALS: IS THERE ANY RELATIONSHIP?**

**Thian Li Shya**

**Bachelor of Economics with Honours  
(Industrial Economics)  
2012**



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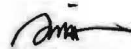
This project is submitted in partial fulfillment of  
the requirements for the degree of Bachelor of Economics with Honours  
(Industrial Economics)

## Statement of Originality

The work described in this Final Year Project, entitled  
**"Crime and Tourist Arrivals: Is There Any Relationship"**  
is to the best of the author's knowledge that of the author except  
where due reference is made.

12 June 2012

(Date Submitted)



Thian Li Shya

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## **ABSTRACT**

### **CRIME AND TOURIST ARRIVALS: IS THERE ANY RELATIONSHIP?**

**By**

**Thian Li Shya**

The main purpose of this study is to investigate the dynamic relationship between crimes (Total Crime, Thefts and Other Stealing, Robbery and Extortion, Burglary, House and Store Breaking, Arson, Murder and Manslaughter, and Assaults) and tourist arrivals in Sarawak. This study covered the annual data from 1970 to 2009. The stationary properties of the time series data are examined by using Augmented Dickey-Fuller (ADF) test, Philips and Perron (PP) test and Kwiatkowski-Philips-Schmidt-Shin (KPSS) test. The Johansen and Juselius cointegration and vector error correction model (VECM) were applied to find out long run relationship along with causality among the variables, whereas vector autoregression (VAR) Granger causality test were applied to find out the short run causality among the variables. The results provide evidence of the existence of long run cointegration relationship among Arson, Murder and Manslaughter with tourist arrivals, but no causality relationships were detected between these two variables. For the other five variables, the results showed that the unidirectional Granger causality running from tourist arrivals to Total Crime, and Burglary, House and Store Breaking, but no causal relationships between the Thefts and Other Stealing, Robbery and Extortion, and Assaults were detected.

## **ABSTRAK**

### **JENAYAH DAN KETIBAAN PELANCONG: ADAKAH SALING BERHUBUNGKAIT?**

**Oleh**

**Thian Li Shya**

Tujuan utama bagi kajian ini adalah untuk mengkaji hubungan antara jenayah (Jumlah Jenayah, Curi dan Lain-Lain Kecurian, Samun dan Peras Ugut, Langgaran Rumah Dengan Bersembunyi atau Pecah Rumah, Bencana Dengan Menggunakan Api, Bunuh dan Bunuh Salah, dan Menggunakan Kekerasan Jenayah) dan ketibaan pelancong di Sarawak. Kajian ini menggunakan data tahunan dari 1970-2009. Kepegunan data siri masa tahunan dikaji melalui Ujian Kepegunan (ADF, PP, dan KPSS). Ujian Kopengamiran Johansen dan Juselius, dan Ujian Penyebab Granger VECM diaplikasikan untuk mencari kointegrasi dengan arah hubungan antara pembolehubah-pembolehubah dalam jangka masa panjang, manakala Ujian Penyebab Granger VAR diaplikasikan untuk menentukan arah hubungan yang wujud bagi pembolehubah-pembolehubah dalam jangka masa pendek. Keputusan menunjukkan kewujudan kointegrasi dalam jangka masa panjang bagi Bencana Dengan Menggunakan Api, dan Bunuh dan Bunuh Salah dengan ketibaaan pelancong, tetapi tidak terdapat arah perhubungan bagi dua pembolehubah ini.

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Degree education and the thesis have a long and challenging journey. Without the continuous support from my supervisor, lecturers, family, and friends, it is impossible for me to complete this thesis.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.0 Introduction**

The biggest political issues, crimes, are a social concern nowadays which can bring negative effects to society. As far as concern, no country is free from crimes. It happens all around the world including Sarawak. Based on Gillani, Rehman and Gill (2009), the first crime had been committed by Cain, the first son of Adam and Eve. Cain killed his brother, Abel due to the jealousy. In every society, crime is insecurity and discomfort which can cause enormous monetary and psychological costs to human being.

Basically, crimes can be divided into two categories, namely violent crime and property crime. Violent crime is a crime that offender threatens to use violent force upon the victim. In general, violent crime includes crimes of violence that are sufficiently regular and significant in occurrence. In the index of crime, there are seven types of crime in this category, which include robbery without firearm, gang robbery with firearm, gang robbery without firearm, murder, attempted murder, rape and voluntarily causing hurt. Property crime is the offences that involve the loss of property which there is no use of violence by the perpetrators. Property crime does not involve force or threat of force against the victim. In the index of crime, it was further divided into seven

categories which are thefts of lorries and van, theft of motor car, theft of motorcycles and scooters, theft of bicycles, housebreaking and theft by day, housebreaking and theft by night, and other forms of theft (Centre for Public Policy Studies, 2008).

Nowadays, criminal activities in all over the world are increasing rapidly. Thus, crime has become a new field of study in economics. Besides that, Ishikawa (2009) believed that the crime rate is not only relates to economic but also non-economic such as culture backgrounds and ethics. However, there is also some researches has proved the existence of relationship between crime rate and some economic variables. For example, Tang (2010) stated that there has a positive relationship between unemployment, inflation, tourist arrivals and crime rates in Malaysia. Gould, Weinberg, and Mustard (2002) also concluded that both wages and unemployment are significantly related to crime.

For the several decades, the reducing of crime rates in Malaysia had become the important task for the policy makers and the Royal Malaysian Police (RMP) department (Tang, 2010). This is because crime can bring a negative impact to the country. Crime is one of the biggest political issues and become a social concern nowadays (Ishikawa, 2009). In order to deal with the problem of criminal activity, one needs to have a clear understanding on criminal behavior and the design of effective policies with a suitable economic approach.

Due to this, there are many studies had been done to investigate the relationship between crime rate and the macroeconomic variables such as unemployment, inflation, tourist arrivals, income inequality, education expenditure and gross domestic product (GDP). However, Ehrlich (1973) had studied the participation in illegitimate activities. He stated that crime is a deviant behavior and its causes must be sought in different factors and circumstances determining behavior. This statement is conversely with the study of Becker (1968) on crime and punishment. Becker's economic model of crime stated that an individual that committed crime was based on the differences in expected costs and benefits.

It is very essential for one country through effective analyzes the criminal activities as an effort to better understanding of the nature of crime, especially for every state in Malaysia in order to combat the crime and maintain the social welfare of one country.

### **1.1 Definition of Terms**

In order to give the full explanation on the variables that been used, the definitions of the term are explained in this section.

### **1.1.1 Crime**

According to Gillani et al. (2009), crime can be defined as a wrongdoing classified by the state or the parliament of the country or law of the land. Each country sets out series of acts (crime), which are prohibited, and punishes a criminal of these acts by a fine or imprisonment or both.

### **1.1.2 Tourist Arrivals**

Tourist can be defined as a visitor who makes at least a single overnight stay and the purpose of whose journey include leisure such as holiday, recreation, health, study, religion and sport. The journey also includes business, visiting friends or relatives and attending meetings or conferences (Department of Statistics, 2010).

## **1.2 Background of Study<sup>1</sup>**

Sarawak is known as the Land of Hornbills or “Bumi Kenyalang” and it is located in the east of Malaysia. Sarawak is one of the states on the island of Borneo. It is the largest state in Malaysia, which follows by Sabah. In the early 19<sup>th</sup> century, Sarawak was ruled by the Brunei Empire until the arrival of the British adventurer James Brooke.

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<sup>1</sup> For further understanding on Sarawak background, refer to <http://en.wikipedia.org/wiki/Sarawak>.

Sarawak is one of the most iconic travel destinations and home to an amazing array of sights, activities, and events.

Based on the last census of 2010, the population of Sarawak was about 2,420,009. The capital of Sarawak, Kuching covered the population about 579,900. Besides that, Sarawak has more than 40 sub-ethnic groups, which consist of Malays, Chinese, Indians, Melanaus, Ibans, Bidayuhs, Bugis and many more. Each of this group has their own distinct language, culture and lifestyle in Sarawak.

By 2020, Sarawak as the largest state in Malaysia intends to be fully developed state along with the rest of the country. As for this, tourism plays an important role in the economy of Sarawak. Until the year of 2010, Sarawak was visited by 5,226,674 arrivals, which consist of international and domestic tourists. In order to show the appreciation to the best tourism sector of the state, the Sarawak Hornbill Tourism Award has been held every year. There are some popular tourist attractions in Sarawak which included Kuching city, Gunung Mulu National Park, the Rainforest World Music Festival (RWMF) and many more.

### **1.2.1 Crimes Background of Study**

Based on the Yearbook of Statistic Sarawak, there are five main types of crimes in Sarawak. The five main types of crimes are crime against lawful authority, against

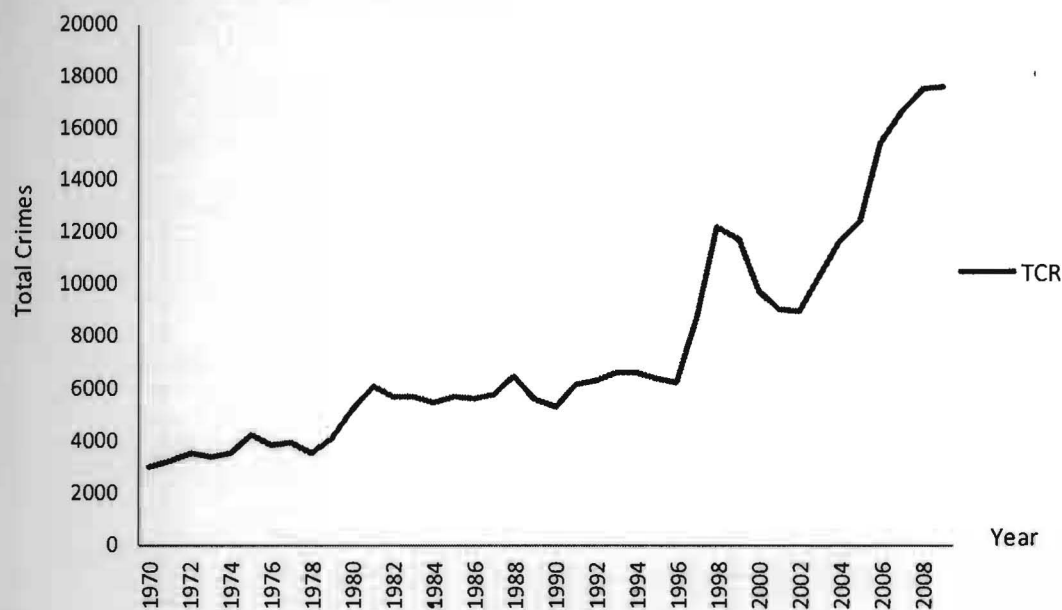


public morality, against the person, against property and all other offences against penal code. Crime against lawful authority is like against public order, perjury, and escape and rescue. Crime against public morality included rape and indecent assault, unnatural offences, and others. Against the person are like murder and manslaughter, attempted murder and attempted suicide, grievous harms, wounding, etc, assaults and others. Crime against property is like thefts and other stealing, robbery and extortion, burglary, house and store breaking, false pretences cheating, fraud, etc, receiving stolen property, arson and others. Lastly, crimes that cover all other offences against penal code include forgery and coinage and others.

Among these five types of the crimes, crime against property contributes the highest portion of crimes in Sarawak. It follows by crime against the person, crime against lawful authority and all other offences against penal code.

1.2.1.1 The Trend of Crimes in Sarawak

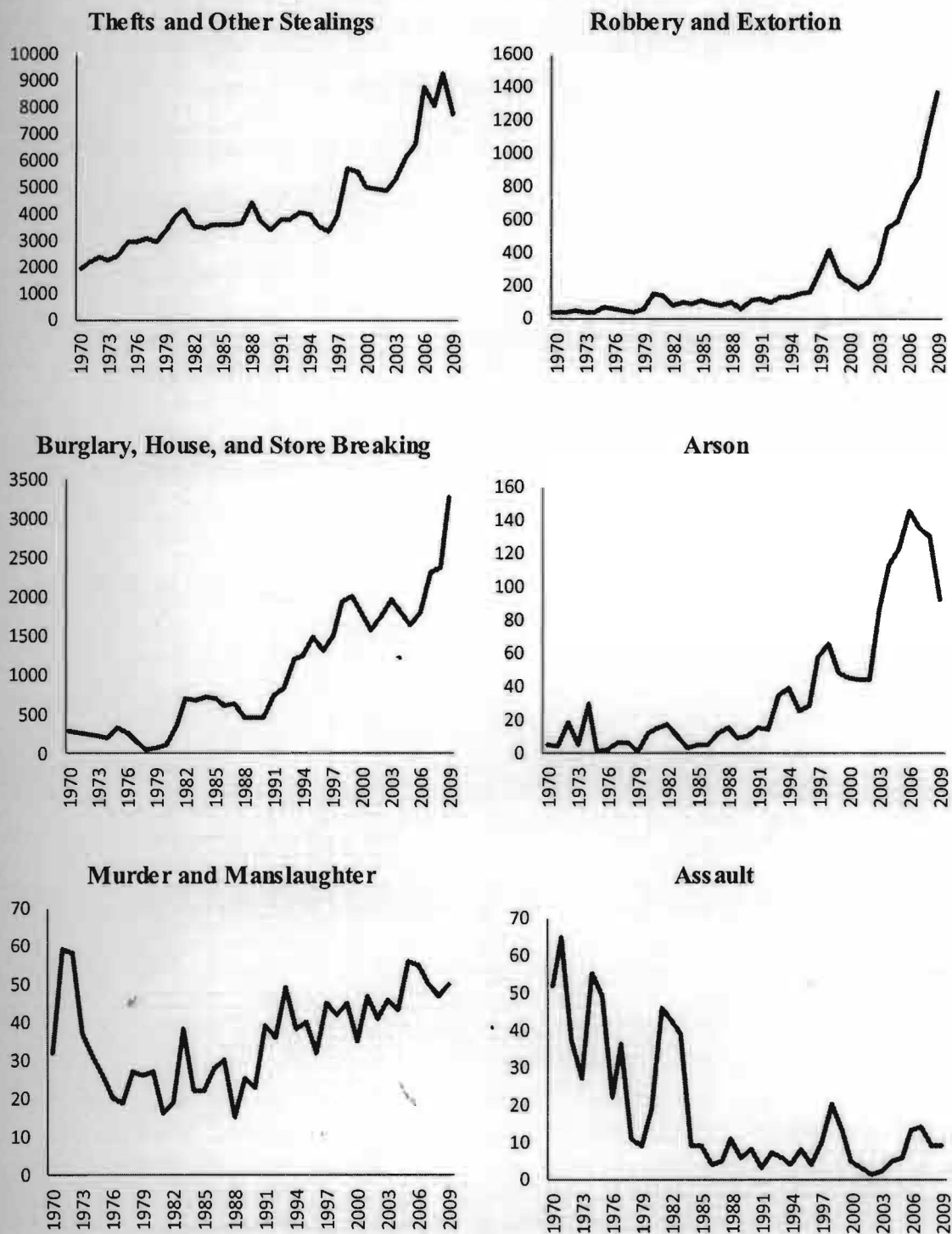
Figure 1: Total Crimes in Sarawak from Year 1970 to 2009



Source: Yearbook of Statistics, Department of Statistics (Sarawak), 2010

Figure 1 shows the trend of different categories of crimes in Sarawak over 40 years started from the period of 1970 to 2009. The figure shows that the total crimes had fluctuated slightly and keeps increasing from the year to year. Then it becomes higher and higher from the year 1996 to 1999 and decreases after that until the year of 2002. The figures go high again from 2002 to 2009. It clearly shows that the number of crimes nowadays in Sarawak becomes higher and higher from 1970 of 2998 cases to 17564 cases in the year of 2009.

**Figure 2: The Sub-Categories of Crimes in Sarawak from Year 1970 to 2009**



Notes: The X axes of the graphs represent the years and the Y axes of the graphs represent the numbers of different categories of crimes.

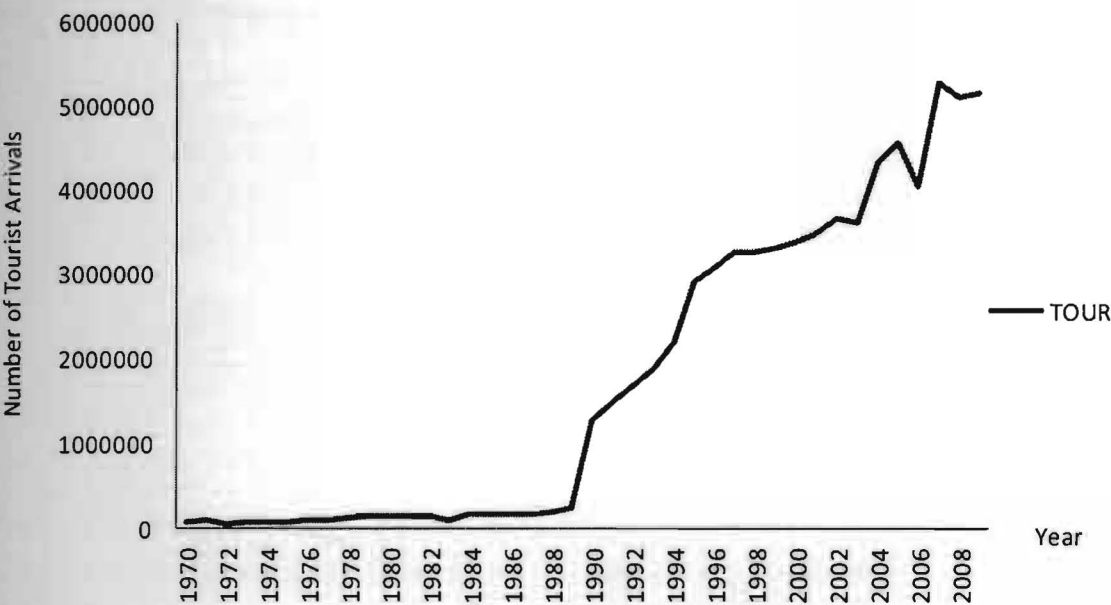
Source: Yearbook of Statistics, Department of Statistics (Sarawak), 2010

Figure 2 shows the sub-categories of crimes in Sarawak from the year 1970 to 2009. The six types of crimes above are some categories of crimes that contribute to total crimes in Sarawak. Based on the Figure 2 above, the theft and other stealings covered a big portion of total crimes in Sarawak. This sub-category of crimes contributes approximately 70 % of total crimes in Sarawak. This might because of this category of crime seem small case, and tends to committed by individuals. Moreover, the theft and other stealings increase equally with the total crime. This can be seen through sudden peak year of 1981, 1988, and 1997 from Figure 1 of total crimes and Figure 2 of theft and other stealings. The reason behind this might be due to the economic downturns and crises like those the oil crisis in the mid 80's and Asian financial crisis in 1997.

Then, it follows by burglary, house and store breaking. This type of crimes also shows the increasing rate from year to year. Same goes to the arson as well as robbery and extortion. However, robbery and extortion is the third largest contributor of total crimes. Starting from the year 1970, this type of crime only consists of 42 cases, but it keeps increasing year by year to 1371 cases in 2009. Assault is the smallest contributor of crimes in this case. Moreover, it shows the decreasing rate from year to year.

1.2.2 The Trend of Tourist Arrivals in Sarawak

Figure 3: Number of Tourist Arrivals to Sarawak from Year 1970 to 2009



Source: Yearbook of Statistics, Department of Statistics (Sarawak), 2010

Figure 3 shows that the trend of tourist arrivals in Sarawak over 40 years starts from 1970 to 2009. Based on the figure, it shows that for the most part of the time frame, the arrival of tourists is in increasing manner except for the year 1982, 1983, 1987, 1998, 2003, 2006 and 2008. For example, tourist arrivals increased from 1974 of 83821 to 1981 of 160281, an increase about 91.2 percent. In the year of 1980, it slightly decreased from 148638 tourists to 108847 tourists, which decreased about 26.8 percent. However, in the following year, it increased to 175550 tourists, which is about 61.3 percent. The tourist arrivals keep increasing from the year of 1984 to 1997. In 1990s, the

government launched the first and second Visit Malaysia Year campaign, which increased the tourist arrivals to Sarawak from 238723 tourists to 1265450 tourists. The increasing figure is very big. This shows that the Visit Malaysia Year campaign is very successful. The tourist arrivals keep increasing throughout the year. Until the year of 2009, the tourist arrivals had increased to 5181226 tourists.

### **1.3 Problem Statement**

During the years, crime has been on the increasing rate in Sarawak. This can be verified through the data from Department of Statistics, Sarawak. The increase of crimes in Sarawak are worried the policy makers because in any of the countries, crime is a nuisance. Crime can cause millions of the government's treasury to fund the investigations, trials, and maintain prisons. Crime also can endanger public security and peace in the society. Thus, it is important to reduce the crime in order to increase the standard of living and solve the social problems that arise from crime.

Besides that, crime can cause the loss of property, lives, and misery. Due to the increase of population and economic growth, crime has been rapidly increased. The high crime rate has imposed large costs on the country. On the other hand, tourists may also involve into criminal activity. Thus, it is important to study the relationship between crimes and tourist arrivals since tourism is one of the sources of Sarawak revenue.

In addition, crime can leave a negative impact on an economic aspect rather than the psychological aspects. It is an important subject to deal with. Crime is merging as a priority in policy agendas worldwide, which bring negative impacts to economic activities and harm the quality of human life. Due to the negative impacts that bring by the criminal activities and lack of consensus among policy makers or scholars, research on this issue continues to be conducted in tourist arrivals towards crimes.

Indeed, different categories of crimes are due to different factors. For example, one might be attempted to commit on violent crime due to the availability of guns, whereas property crime due to the livelihood problems. Population also might be a reason for the increases of crime in some country. However, population is an ambiguous factor. For instance, state which has high population like New York had showed a lower index crime than Florida. Hence, population might be a factor of crime rate, but it is definitely not a major factor. In this case, arrival of tourists in Sarawak may commit in crime.

Therefore, there have many researchers study on the crime rates in different kind of countries, included Malaysia. For the case of Malaysia, there have a number of published studies on crime rates. For example, Meera and Jayakumar (1995), Sidhu (2005), Habibullah and Law (2008), Baharom and Habibullah (2008, 2009), and Tang (2009, 2010). However, there do not have any study that specific on the sub-categories of crimes and tourist arrivals in Sarawak. Hence, by selecting tourist arrivals as the

determinant, it can help us to see whether this determinant will affect the crime rate in Sarawak.

This study of the relationship is very important to determine whether tourist arrivals will affect crime rates in Sarawak or vice versa. This study can give a guideline to the government of Sarawak whether they should focus more on this variable to overcome crime. Since, the importance of tourist arrivals as the determinant of crime comes from its ability to reflect the economic stability of a country. The economic literatures showed that the possibility of tourist arrivals to affect crime rates whether it is significantly positively or negatively influenced. While this variable can create uncertainty in economy, more focus should be given on it.

## **1.4 Objectives of Study**

### **1.4.1 General Objective**

The general objective of the study is to investigate the dynamic relationship between sub-categories of crimes and tourist arrivals in Sarawak.